Claims

1. An agent for promoting proliferation and differentiation of hematopoietic stem cells and/or hematopoietic precursor stem cells of mammals comprising a protein belonging to the MK family as an active ingredient.

2. The agent of claim 1, which comprises a protein belonging to the MK family and one or more other hematopoietic factors as active ingredients.

3. The agent of claim 2, wherein said other hematopoietic factors are selected from a group consisting of IL-3, IL-6, G-CSF, GM-CSF, M-CSF, SCF, and EPO.

4. The agent of claim 3, wherein said other hematopoietic factors are IL-3, IL-6, SCF, and EPO.

5. The agent of claim 3, wherein said other hematopoietic factors are IL-3, IL-6, G-CSF, GM-CSF, and SCF.

6. The agent of claim 3, wherein said other hematopoietic factor is G-CSF.

7. The agent of any one of claims 1 to 6, wherein said hematopoietic stem cells are CFU-Mix.

8. Use of a protein belonging to the MK family for preparing an agent for promoting proliferation and differentiation of hematopoietic stem cells and/or hematopoietic precursor cells of mammals.

9. A method for promoting proliferation and differentiation of hematopoietic stem cells and/or hematopoietic precursor cells of mammals, comprising administering a protein belonging to the MK family.

10. Use of a protein belonging to the MK family and one or more other hematopoietic factors for preparing an agent for promoting proliferation and differentiation of hematopoietic stem cells and/or hematopoietic precursor cells of mammals.

11. A method for promoting proliferation and differentiation of hematopoietic stem cells and/or hematopoietic precursor cells of mammals, comprising administering a protein belonging to the MK family and one or more other hematopoietic factors.

12. A pharmaceutical composition for treating neutropenia of mammals, comprising a protein belonging to the MK family and one or more other hematopoietic factors as active ingredients.

13. The pharmaceutical composition of claim 12, wherein said other hematopoietic factor is G-CSF.

14. Use of a protein belonging to the MK family and one or more other hematopoietic factors for preparing a pharmaceutical composition for treating neutropenia of mammals.

15. A method for treating neutropenia of mammals, comprising administering a protein belonging to the MK family and one or more other hematopoietic factors.

16. A pharmaceutical composition for *ex vivo* expansion of hematopoietic stem cells for the transplantation of bone marrow and peripheral blood stem cells, comprising a protein belonging to the MK family and one or more other hematopoietic factors as active ingredients.

17. The pharmaceutical composition of claim 16, wherein said other hematopoietic factors are selected from a group consisting of IL-3, IL-6, G-CSF, GM-CSF, M-CSF, SCF, and EPO.

18. The pharmaceutical composition of claim 17, wherein said other hematopoietic factors are IL-3, IL-6, SCF, and EPO.

19. Use of a protein belonging to the MK family and one or more other hematopoietic factors for preparing a pharmaceutical composition for *ex vivo* expansion of hematopoietic stem cells for the transplantation of bone marrow and peripheral blood stem cells.

20. A method for *ex vivo* expansion of hematopoietic stem cells for the transplantation of bone marrow and peripheral blood stem cells, comprising administering a protein of the MK family and one or more other hematopoietic factors.